PEER REVIEW HISTORY

ARTICLE DETAILS

TITLE (PROVISIONAL)	Factors Influencing the Inclusion of Complementary and Alternative Medicine (CAM) in Undergraduate Medical Education
AUTHORS	Smith, Kevin

VERSION 1 - REVIEW

REVIEWER	***Dr. Heidi Lempp*** Senior research Fellow (Social Scientist) King's College London, School of Medicine UK I do not have any competing interests.
REVIEW RETURNED	09-Feb-2011

GENERAL COMMENTS	In relation to the heated debates what should be in- or excluded in the mostly overcrowded undergraduate medical curricula in the UK I find the paper interesting to consider for publicaton and dliberation. The findings are presented in a well structured way, applying mostly qualitative data analysis with the single counting method. I have the following reservations about the paper and suggestions for improvement: 1) given that the data was gathered through a survey amongst medical school deans in the UK I did find the response rate (58%) too low and therefore a generalisation of the the findings is not possible in my view. I agree with the author's statement that further research would be helpful, e.g in providing data from individual interviews with the deans or the allocated responders. If the data from the interviews or focus groups would have been included in the paper, it would have made the paper richer and more interesting. 2) the findings presented focused mainly on views and practices in each medical school, but not on policies as stated at the beginning of the paper. 3) I found the paper overall too descriptive and not analytical enough. For example the list of accounts at the end of the paper is not very helpful. A table with some positive, some critical and some undecided responses would have provided more interesting findings. In addition further detailed information about the main teaching methods, e.g. PBL, traditional, mixure of both, types of medical schools (e.g. new/old), breakdown of medical students in terms of gender and ethnicity may be important variables that may influence decisions how much CAM is taught in each school. 4) I disagree with the author stating that it is ethically questionable to have CAM practioiners teaching CAM in some Medical Schools. From my own experience, and given that the goal of the CAM teaching is to raise awareness for students 'only', an exposure to non-medical staff enriches the teaching and experiences of medical students' teaching, who are mainly exposed to a very narrow range of teachers, e.g. clinical staff. The issue in my opinion is to enhance criticial thinking within the undergraduate curricula from which

	students then can draw their own conclusion about the relevance and importance of CAM within the context of evidence-based medicine. I hope these comments are helpful.

REVIEWER	***Dr Charlotte Paterson*** Honorary Research Fellow School of Social and Community Medicine University of Bristol UK I have no competing interests to declare.
REVIEW RETURNED	02-Mar-2011

THE STUDY	This paper reports on a small email survey, the aim of which is 'to investigate the factors that influence the inclusion of CAM in undergraduate medical syllabi in the UK'. The research question is clearly defined and the findings of the survey are reported clearly and in good detail. However there are aspects of the design/ methods and of the introduction/discussion which are problematic. Design The use of an email survey, to the 31 Deans of medical schools, is an appropriate first stage in answering the questions posed but, as would be expected, only 18 responses were received, even after a variety of follow-up communications over an 8 month period. Some further information that would help us to gauge the generalisability of these responses is not included. For example details of who the final responses came from and comparisons of responding and non-responding institutions. Method In addition to the response rate problems, the survey appears to have the following weaknesses: 1. A lack of definition of CAM. The paper opens with an idiosyncratic and somewhat loaded definition of CAM- and we learn that this forms part of the survey documentation: "Forms of CAM include acupuncture, chiropractic, faith healing, homeopathy, reflexology, therapeutic touch - the list is potentially endless, because any conceivable system or approach may be ascribed therapeutic powers by a proponent" A number of commonly used definitions and lists of therapies are available and would be more rigorous and helpful – e.g. House of Lords definition; NCCAM definition; the Cochrane Collaboration (which is "a broad domain of healing resources that encompasses all health systems, modalities, and practices and their accompanying theories and beliefs, other than those intrinsic to the politically dominant health systems of a particular society or culture in a given historical period".) 2. The survey does not distinguish between the different types of therapy that make up the CAM group. Whilst this decision may have been necessary for a brief email survey, it makes it difficult to interpret the results and should be added as important limitation of this chosen design. Therapies such as acupuncture and chiropractic are part of several NICE guidelines and are commonly used alongside biomedical interventions, whereas faith healing is a more alternative intervention that lies outside the medical sphere.

	3. It is not clear on what basis and with what method the six questions that make up the survey were developed, nor whether they were piloted. If, as it appears, such development work was not done, I would question the wording of two of the questions. In Question 5, (Do you consider that your staff would generally be in favour of or opposed to an increased prominence of CAM in medical education?) the use of the wording 'increased prominence' constitutes a somewhat 'leading question' and would be better phrased as a 'change in' prominence or increased/decreased prominence. In Question 6,(Do you personally consider the matter to be a problem?) it is not clear what 'the matter' refers too (including CAM, increasing the prominence of CAM, pressures regarding CAM, etc). 4. The description of the email survey is imprecise: "The email sent to editors comprised an explanatory tract followed by specific questions, together with an attachment containing further information. The information provided was effectively a précis of the Introduction section of this article." The survey instrument, email and attachment should be included as an appendix. Interpretation and Discussion 1. The Discussion section opens with the statement "The foregoing data indicate that CAM education is widespread in undergraduate medical curricula throughout the UK.". This statement should be qualified somewhat in view of the low response rate, and the likelihood that one reason for non-responding would be a lack of interest and maybe a lack of provision of CAM education. 2. The discussion goes on to restate the findings and discuss them in relation to the GMC requirements. It would have been useful to discuss them in relation to other literature. How, for example, UK medical schools compare to those in North America or Europe, or to what extent these findings indicate change within a historical context. 3. Following a very balanced restating of the finding , paragraph 3 on Page 10, is made up of statements about 'potential problems' that are not substantiated by the data. For example, whilst the following may be the author's opinion it is not research-based nor evident in the survey findings: "CAM is in some cases reported as being taught by CAM practitioners or CAM-specific academics. It is difficult to conceive of education from such sources as being based on anything other than training students to appreciate and apply CAM in practice. This is arguably a form of indoctrination, and is thus of significant ethical concern." It is not clear to me why CAM-specific academics should not teach within their discipline, just as medical schools will use pharmacologists to teach pharmacology and bring in patients to present the patient viewpoint. Similarly with the potential dangers of students 'assimilating' pro-CAM information in preparing for their course work – if this is seen as a potential danger it must also apply to all use of the internet in educational research and teaching. 4. The concluding remarks section appears to reflect the opinions of the author rather than the findings of the study, and as such would be better omitted. For example: It is of substantial ethical importance that medical curricula are designed such as to minimise the likelihood of producing doctors who advocate, prescribe or practice implausible and unproven forms

	of medicine. Overall recommendations The design and methodology inevitably make the results of this survey somewhat limited, however the information is original and may be of some interest. The paper may therefore be publishable if the methods and the limitations were more clearly described, as indicated above, and if it was written without the strong ideological voice of the author overshadowing the research findings.

VERSION 1 – AUTHOR RESPONSE

Author comments below. Please also refer to the copy attached.

Reviewer 1 - Heidi Lempp
Reviewer's comments Response (note that page & line numbers refer to the original manuscript)

1a In relation to the heated debates what should be in- or excluded in the mostly overcrowded undergraduate medical curricula in the UK I find the paper interesting to consider for publicaton and dliberation. The findings are presented in a well structured way, applying mostly qualitative data analysis with the single counting method.

I thank the reviewer for these comments.

1b I have the following reservations about the paper and suggestions for improvement:
1) given that the data was gathered through a survey amongst medical school deans in the UK I did find the response rate (58%) too low and therefore a generalisation of the the findings is not possible in my view.

This is a fair point I think, considering that the journal guidelines refer to 65% as being a satisfactory response rate. Accordingly, I have altered the following parts to acknowledge this: 'Strengths and limitations' (page 1, line 59) and 'Limitations and Future Work' (page 10, line 52 onwards).

1c I agree with the author's statement that further research would be helpful, e.g in providing data from individual interviews with the deans or the allocated responders. If the data from the interviews or focus groups would have been included in the paper, it would have made the paper richer and more interesting.

I agree. The next phase of the study aims to obtain such additional data. Nevertheless, the data obtained from the survey are of interest per se, and they form a self-contained and coherent piece of research, hence the wish to publish at this juncture.

I would further hope that publication of the survey findings might serve to interest more medical schools in agreeing to be interviewed.

I have adjusted the 'Limitations and Future Work' section (page 10, line 60 onwards) to emphasise the importance of such further work.

1d 2) the findings presented focused mainly on views and practices in each medical school, but not on policies as stated at the beginning of the paper.

I thank the reviewer for noting this. Accordingly, I have removed the term 'policies' from the two sentences in which it occurred (page 1, line 43; and page 2, line 8.

1e 3) I found the paper overall too descriptive and not analytical enough.

Given that the stated purpose of the study was to briefly and simply survey views, it is perhaps inevitable that much of the resulting content is fairly descriptive. Nevertheless, I would contend that the paper does contain a sufficient amount of analysis, albeit of a qualitative nature.

1f For example the list of accounts at the end of the paper is not very helpful. A table with some positive, some critical and some undecided responses would have provided more interesting findings.

I would wish to retain the list of accounts. It may not be found helpful to all readers, however it will help readers who wish to look at the individual comments; moreover it forms an important adjunct to the foregoing summary table. Regarding the suggestion of tabulating positive/critical/undecided responses: I consider this to be one potentially useful way of presenting the data, however in this paper these data have already been considered on a question-by-question basis (in the 'Analysis' section).

1g In addition further detailed information about the main teaching methods, e.g. PBL, traditional, mixure of both, types of medical schools (e.g. new/old), breakdown of medical students in terms of gender and ethnicity may be important variables that may influence decisions how much CAM is taught in each school.

I thank the reviewer for this point. Accordingly, I have incorporated this into the 'Limitations and Future Work' section (page 11, line 6 onwards).

1h 4) I disagree with the author stating that it is ethically questionable to have CAM practioiners teaching CAM in some Medical Schools. From my own experience, and given that the goal of the CAM teaching is to raise awareness for students 'only', an exposure to non-medical staff enriches the teaching and experiences of medical students' teaching, who are mainly exposed to a very narrow range of teachers, e.g. clinical staff. The issue in my opinion is to enhance criticial thinking within the undergraduate curricula from which students then can draw their own conclusion about the relevance and importance of CAM within the context of evidence-based medicine.

The paper refers to use of CAM practitioners as being "potentially problematic" and claims that "arguably" this could amount to a form of "indoctrination" (page 10, line 10 onwards). Of course, this allows for some use of CAM practitioners as being not necessarily problematic; indeed this is emphasised at the end of the same paragraph (page 10, lines 32-34). Nevertheless, in cases where problems such as indoctrination were to occur, then I consider that this would indeed be of "significant ethical concern" (as stated). Thus, I would wish my contention to remain as stated. However, I have added a counterargument (after line 34) based on the reviewer's points, and also followed this up under 'Concluding Remarks'.

Reviewer 2 - Charlotte Paterson
Reviewer's comments Response (note that page & line numbers refer to the original manuscript)

2a This paper reports on a small email survey, the aim of which is 'to investigate the factors that influence the inclusion of CAM in undergraduate medical syllabi in the UK'. The research question is clearly defined and the findings of the survey are reported clearly and in good detail.

I thank the reviewer for these comments.

2b However there are aspects of the design/ methods and of the introduction/discussion which are

problematic.

Design
The use of an email survey, to the 31 Deans of medical schools, is an appropriate first stage in answering the questions posed but, as would be expected, only 18 responses were received, even after a variety of follow-up communications over an 8 month period. Some further information that would help us to gauge the generalisability of these responses is not included. For example details of who the final responses came from and comparisons of responding and non-responding institutions.

Regarding the point about more information: I agree that this would have been useful. To some extent this overlaps the point made by Reviewer 1 – see point 1g above, and my response to that.

One additional point I would make is that issues of confidentiality preclude the publication of details that might risk identifying individual institutions.

2c Method
In addition to the response rate problems, the survey appears to have the following weaknesses:
1. A lack of definition of CAM. The paper opens with an idiosyncratic and somewhat loaded definition of CAM- and we learn that this forms part of the survey documentation:
“Forms of CAM include acupuncture, chiropractic, faith healing, homeopathy, reflexology, therapeutic touch - the list is potentially endless, because any conceivable system or approach may be ascribed therapeutic powers by a proponent”
A number of commonly used definitions and lists of therapies are available and would be more rigorous and helpful – e.g. House of Lords definition; NCCAM definition; the Cochrane Collaboration (which is "a broad domain of healing resources that encompasses all health systems, modalities, and practices and their accompanying theories and beliefs, other than those intrinsic to the politically dominant health systems of a particular society or culture in a given historical period".)

I would defend the definition (or perhaps more accurately, descriptive statement) of CAM used in this paper. There are 3 main reasons for defending it, as follows.

(1) Rightly or wrongly, the respondents were simply asked about ‘Complementary and Alternative Medicine’, with no special definition being given. Thus, broadly in keeping with this research approach, I provided only a short descriptive statement in the Introduction section (page 3, line 10 onwards), as opposed to providing a detailed discourse on definitions.

(2) It is impossible to avoid being ‘loaded’ in defining CAM. Many of the terms frequently employed in definitions of CAM – such as ‘complementary’, ‘integrative’, ‘unconventional’ – are employed by CAM advocates, as euphemisms. I would strongly contend that all of the definitions mentioned by the reviewer are themselves controversial.

(3) I believe that my statement is correct. The list of potential CAM therapies is in fact potentially endless; the position of CAM is undoubtedly paradoxical – evidence for most CAM approaches is in fact very weak, yet it is also true that CAM is very popular.

2d 2. The survey does not distinguish between the different types of therapy that make up the CAM group. Whilst this decision may have been necessary for a brief email survey, it makes it difficult to interpret the results and should be added as important limitation of this chosen design. Therapies such as acupuncture and chiropractic are part of several NICE guidelines and are commonly used alongside biomedical interventions, whereas faith healing is a more alternative intervention that lies outside the medical sphere.

I accept this point. Accordingly, an additional paragraph has been added into the ‘Limitations and Future Work’ section (page 10). This is also reflected by an additional bullet point under the ‘Strengths and limitations’ list (page 1).

2e 3. It is not clear on what basis and with what method the six questions that make up the survey were developed, nor whether they were piloted. If, as it appears, such development work was not done, I would question the wording of two of the questions. In Question 5, (Do you consider that your staff would generally be in favour of or opposed to an increased prominence of CAM in medical education?) the use of the wording ‘increased prominence’ constitutes a somewhat ‘leading question’ and would be better phrased as a ‘change in’ prominence or increased/decreased prominence. In Question 6,(Do you personally consider the matter to be a problem?) it is not clear what ‘the matter’ refers too (including CAM, increasing the prominence of CAM, pressures regarding CAM, etc).

Indeed they were not piloted, as this represents the first phase of study, and given the context a valid pilot group would not have been available.

I am grateful for, and fully accept these points, and have added them into the ‘Limitations and Future Work’ section (page 10). This is also reflected by an additional bullet point under the ‘Strengths and limitations’ list (page 1).

2f 4. The description of the email survey is imprecise:
“The email sent to editors comprised an explanatory tract followed by specific questions, together with an attachment containing further information. The information provided was effectively a précis of the Introduction section of this article.”
The survey instrument, email and attachment should be included as an appendix.

Now included as appendices as requested, and the text of the paper now directs the reader to these appendices (page 4, lines 27 & 32).

2g Interpretation and Discussion
1. The Discussion section opens with the statement “The foregoing data indicate that CAM education is widespread in undergraduate medical curricula throughout the UK.”. This statement should be qualified somewhat in view of the low response rate, and the likelihood that one reason for non-responding would be a lack of interest and maybe a lack of provision of CAM education.

I accept this. I have therefore adapted the start of the Discussion section (page 9) to reflect this. See also my response to Reviewer 1 (1b, above).

2h 2. The discussion goes on to restate the findings and discuss them in relation to the GMC requirements. It would have been useful to discuss them in relation to other literature. How, for example, UK medical schools compare to those in North America or Europe, or to what extent these findings indicate change within a historical context.

This would make interesting reading, however I would consider it to be outside of the scope of the present study.
2i 3. Following a very balanced restating of the finding , paragraph 3 on Page 10, is made up of statements about ‘potential problems’ that are not substantiated by the data. For example, whilst the following may be the author’s opinion it is not research-based nor evident in the survey findings:
“CAM is in some cases reported as being taught by CAM practitioners or CAM-specific academics. It is difficult to conceive of education from such sources as being based on anything other than training students to appreciate and apply CAM in practice. This is arguably a form of indoctrination, and is thus of significant ethical concern.”

I would wish to retain this discussion point, albeit with an additional part added: please see 1h above for my response to the other reviewer, and action I have taken, in respect of this aspect.

Additionally, I would contend that the statement “CAM is in some cases reported as being taught by CAM practitioners or CAM-specific academics” is in fact research based and evident from the survey, as it is clear from the responses that students are in some cases (albeit a minority of cases, as I state) exposed to CAM practitioners/academics. My further statement regarding the ethics of this is, I would argue, reasonable, valid, and presented as argument (not as ‘fact’).

2j It is not clear to me why CAM-specific academics should not teach within their discipline, just as medical schools will use pharmacologists to teach pharmacology and bring in patients to present the patient viewpoint. Similarly with the potential dangers of students ‘assimilating’ pro-CAM information in preparing for their course work – if this is seen as a potential danger it must also apply to all use of the internet in educational research and teaching.

Again, please see 1h above for my response to the other reviewer, and action taken, in respect of this aspect.

2k 4. The concluding remarks section appears to reflect the opinions of the author rather than the findings of the study, and as such would be better omitted. For example:
It is of substantial ethical importance that medical curricula are designed such as to minimise the likelihood of producing doctors who advocate, prescribe or practice implausible and unproven forms of medicine.

Indeed the concluding remarks contain the author’s opinions but this is undisguised and clear to the reader. Moreover, my opinions are fully relevant to, and indeed in large part generated from, the findings of the study.

2l Overall recommendations
The design and methodology inevitably make the results of this survey somewhat limited, however the information is original and may be of some interest. The paper may therefore be publishable if the methods and the limitations were more clearly described, as indicated above, and if it was written without the strong ideological voice of the author overshadowing the research findings.

I have endeavoured to address the various points about design and methodology, as above. In respect of ideological voice: the issue of CAM is inevitably a contentious one, and attempting to remove any subjective treatment from this arena would in my opinion by to the detriment of research in this area. It would also, I believe, make this paper less interesting. I have no doubt that readers will be able to decide for themselves whether my conclusions are ‘ideological’ or valid. I strongly believe that it is important to emphasise the ethically relevant issues associated with the inclusion of CAM in undergraduate medical syllabi, as indicated by this study.

VERSION 2 - REVIEW

REVIEWER	***Charlotte Paterson***
REVIEW RETURNED	23-Mar-2011

THE STUDY	The author has made appropriate additions to the study limitations sections. Having done so it is clear that the study has significant limitations that may suggest to the reader that the study is of minor

	interest. The editors know better than I what level of research they wish to publish. With repect to my previous comments about the ideological voice and comments that are unsubstantiated, the author has defended his position and made few changes. For example, Key message 3 remains: "It is of substantial ethical importance that medical curricula are designed such as to minimise the likelihood of producing doctors who advocate, prescribe or practice implausible and unproven forms of medicine." This is not a finding of the survey but is the author's opinion. The concluding remarks remain opinion based rather than findings based and the difinition of CAM remains a personal one rather than one taken from previous key literature or reports. In view of both these aspects, I would not recommend BMJ Open publishing the paper. The author may find a less prestigious journal willing to do so. or it may be a more substantial paper could be written if further work is undertaken in the area.

REVIEWER	***Heidi Lempp***
REVIEW RETURNED	28-Mar-2011

THE STUDY	The author has addressed many of the concerns I have raised in my review, to a more or lesser extent. It seems to me due to the many additional issues the author added in the discussion and conclusion sections that many compromises had to be made. I still think that the paper would be more interesting and credible as an original paper if interview data would be combined with the survey findings. The fact that qualitative data were mainly presented in the paper is not a problem (as the author stated), as I use qualitative research methods all the time).

VERSION 2 – AUTHOR RESPONSE

Reviewer:

This is topical, as CAM's place in the NHS is under debate, and also because a new study on this very question is currently recruiting UK medical students:
http://www.iop.kcl.ac.uk/virtual/?path=/camstudy

And I've some sympathy with the 58% response rate, as it was a strength to sample deans but it was always going to be hard getting them to reply.

Author response:
Noted, with thanks.

Reviewer:
An appeal should be allowed only on the basis that

1. the author does a further analysis of possible non-response bias, reporting the characteristics of the responding and non responding medical schools and cautiously discussing whether this suggests

any systematic bias. The author should have all this info readily available and reporting it would make the paper much richer and more useful

2. important characteristics would include size of medical school, how long it's been open, urban vs campus, teaching style (problem-based vs traditional), offering graduate entry programme or not, and whether the linked hospitals have any CAM services and probably others

Author response:
This has now been done. See additions to 'Limitations and Future Work', and several new tables and commentary added (following Table 1).

Reviewer:
3. the revised paper cites a suitable reference on survey response rates and the importance of non response bias eg Practice: Statistics Notes: Missing data. Douglas G Altman, J Martin Bland
BMJ 2007;334:424 doi:10.1136/bmj.38977.682025.2C (Published 22 February 2007)
http://www.bmj.com/content/334/7590/424.full

Author response:
This paper has been cited (ref 32), along with another of relevance (ref 33).

Reviewer: Dr Charlotte Paterson
The author has made appropriate additions to the study limitations sections.

Author response:
Noted, with thanks.

Having done so it is clear that the study has significant limitations that may suggest to the reader that the study is of minor interest. The editors know better than I what level of research they wish to publish.
With repect to my previous comments about the ideological voice and comments that are unsubstantiated, the author has defended his position and made few changes. For example, Key message 3 remains: "It is of substantial ethical importance that medical curricula are designed such as to minimise the likelihood of producing doctors who advocate, prescribe or practice implausible and unproven forms of medicine."

This is not a finding of the survey but is the author's opinion. The concluding remarks remain opinion based rather than findings based and the difinition of CAM remains a personal one rather than one taken from previous key literature or reports.

Author response:
I have now addressed these points. Significant changes have been made to the Article Summary, Abstract and Concluding Remarks sections to remove comments not substantiated by the findings. I have also extensively changed the part of the Introduction section that deals with the issue of defining CAM.

Reviewer:
In view of both these aspects, I would not recommend BMJ Open publishing the paper. The author may find a less prestigious journal willing to do so. or it may be a more substantial paper could be written if further work is undertaken in the area.

Reviewer: Dr. Heidi Lempp

The author has addressed many of the concerns I have raised in my review, to a more or lesser extent.

Author response:
Noted, with thanks.

Reviewer:
It seems to me due to the many additional issues the author added in the discussion and conclusion sections that many compromises had to be made. I still think that the paper would be more interesting and credible as an original paper if interview data would be combined with the survey findings

Author response:
Noted; however this would require further empirical work. Such work is intended, however the paper seems of importance of itself, especially considering [a] this is a topic of immediate interest to the NHS and [b] although it is a simple study, it did involve deans and their views and comments appear of interest and value.

Reviewer:
The fact that qualitative data were mainly presented in the paper is not a problem (as the author stated), as I use qualitative research methods all the time).

Author response:
Noted, with thanks.